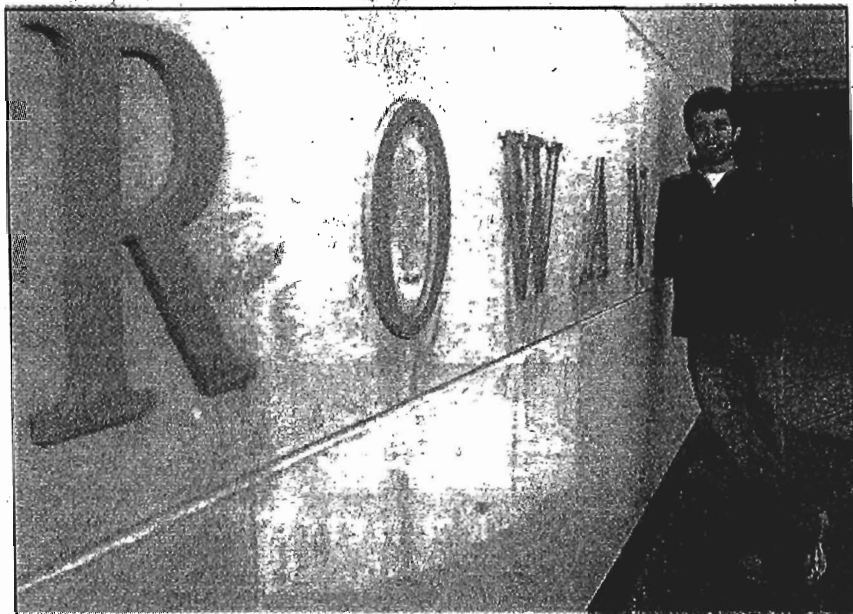


# Students lend a hand with cancer drug



Staff photo by Colleen Hiett

Nick DeSantis is a chemical engineering major at Rowan University working with other students and a drug company in their development of a new cancer drug.

By Anne B. Jolis

ajolis@sjnewsco.com

GLASSBORO — Classroom learning has turned into practical experience this year at Rowan University, with a team of students and professors working alongside scientists from the Bristol-Myers Squibb Pharmaceutical Research Institute.

According to Rowan spokeswoman Pat Quigley, the New Brunswick-based global drug company is in the midst of developing a new drug to combat cancer. Through a two-year \$26,813 U.S. Environmental Protection Agency grant, the Rowan group is helping the company use "green engineering design" in this process.

"We analyzed the process from a green engineering standpoint," said Senior Chemical Engineering major Nick DeSantis of Blackwood. "Basically, that's trying to find solutions to the problems of making everything surrounding the research environmentally and health-friendly — things like recycling rather than just

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## Rowan: Students assist drug maker

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dumping stuff in the garbage, recovering matter in waste streams that would normally be put out."

DeSantis said that because of a confidentiality agreement that he, and the rest of the group, had been asked to sign by Bristol-Myers Squibb, he couldn't talk about the details of the drug, how it works or the process the company is using to develop it.

"But I can say that developing a drug is a very long process," said DeSantis. "So there are many different possibilities to improve the green engineering points of it. Typically, these companies aren't focused on that kind of stuff — they're concentrating on how much of the drug they can produce, or its purity. But this will be a year-long project, so we really get to go through it from a different standpoint."

Dr. Stewart Slater is a chemical engineering professor at Rowan and one of the supervisors of the project. Slater said that while the Rowan team could have simply used existing work or literature in the field,

Bristol-Myers Squibb invited them to follow and evaluate the process directly. Slater said his team's research will include developing new measurement tools to see if the company can improve the efficiency and effectiveness of their drug-development process. The Rowan group is also working at producing a computer-based solvent selection table that will help pharmaceutical companies choose more environmentally-friendly chemicals and will measure the overall "greenness" of the operation.

"To make our work more real-world, Bristol-Myers Squibb said we could be involved with this current project," said Slater. "We're actually meeting and working with the real team that's developing this drug, which is in Phase II clinical trials and being made on a pilot scale."

Dr. San Kiang, director of Bristol-Myers Squibb's Chemical Process Engineering and Process Research & Development divisions, initiated the partnership with Rowan. According to Kiang, the company was a winner of the 2004

Presidential Green Chemistry Challenge Award.

"This program with Rowan allows Bristol-Myers Squibb to share its expertise in green chemistry in the hope that it will have a lasting impact on these future scientists," said Kiang.

And though DeSantis has already accepted a job with Sunoco Inc. and will be using his chemical engineering skills in an entirely different way, he said the program has certainly had an effect on him and his career.

"This has really broadened my understanding of chemical engineering," said DeSantis. "I really feel like I understand the overall process of developing a new drug, and what goes on on that side of the industry."

In addition to Slater and DeSantis, the Rowan team includes Drs. Mariano Svetski and Robert Hesketh, graduate students Daniel Fichana of Delran and Erin Frey of New Ringold, Pa., and undergraduate students Thoran Farnsworth of Mays Landing and Scott Barnes of Washington Township.